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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/738,900	12/18/2000	Heung-bae Lee	Q61824	2194

7590 12/13/2005
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
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WASHINGTON, DC 20037-3202

EXAMINER

GHEBRETINSAB, TEMESGHEN

ART UNIT PAPER NUMBER

2637

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/738,900	Applicant(s) LEE, HEUNG-BAE	
	Examiner Temesghen Ghebretinsae	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. It would be of great assistance to the Office if all incoming papers pertaining to a filed application carried the following items:

1. Application number (checked for accuracy, including series code and serial no.).
2. Group art unit number (copied from most recent Office communication).
3. Filing date.
4. Name of the examiner who prepared the most recent Office action.
5. Title of invention.
6. Confirmation number (See MPEP § 503).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 -3 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Hiroshi (JP-6244754)

4. The prior art (fig.1) discloses a direct conversion demodulator in RF reception system comprising: a down mixer (112,114) for mixing a received RF signal and a carrier signals, and thereby converting the RF signal into baseband signals of channels I and Q.; a filter (132,134) for filtering high frequency component of the baseband signal; a differentiator (142,144) for differencing the baseband signal of the two channels output from the filter; a multiplier (152,154) for cross multiplying the baseband signals of the two channels output from the differentiator and the baseband signal of the two channels output from the filter; an adder (162) for adding the baseband signal of

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the two channels output by the multiplier and thereby detecting data. The prior art is different from the claimed invention in that a detector for detecting a gain control level and an AGC for controlling gains (270) as claimed in claims 1 and 3 is missing or not disclosed. However, Hiroshi (JP-6244754) discloses a receiver comprising down mixer (109) for mixing a received RF signal and carrier signal; a filter (110,111) for filtering high frequency components of the baseband signal; **a detector for detecting a gain control level corresponding to the difference obtained by comparing the levels of the baseband signal of the two channels output by the filter with a predetermined level (see fig.27 (a) and (b)); an AGC for controlling gains of the baseband signals for each of the two channels output from the down mixer according to the gain control level detected by the detector.** Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the detector and AGC control (fig.27 (a), (b)) of Hiroshi in the system of the prior art so that the output signal of the prior art is maintained at a constant level and the data is detected correctly.

The detector of Hiroshi also discloses a multiplying unit for multiplying the baseband signals of the two channels with themselves; an adding unit for adding the baseband signals of the two channels multiplied by the multiplying unit and a level comparing unit for generating a gain control level corresponding to the difference obtained by comparing the levels of the signals detected by the adding unit with a predetermined level (see fig. 27(b)).

Response to Arguments

5 Applicant's arguments filed 9/21/05 have been fully considered but they are not persuasive. Applicant argues that Hiroshi does not disclose **a detector for detecting a gain control level corresponding to the difference obtained by comparing the levels of the baseband signals of the two channel by filter with a predetermined level**. Applicant also argues that **the output element 4202 is an integrated value it does not correspond to the output of the subtractor shown in fig.27 (b)**.

Examiner disagrees with applicant's conclusion because Hiroshi does disclose **a detector (4202 (a) and 4202 (b)) for detecting a gain control level corresponding to the difference obtained by comparing the levels of the baseband signals of the two channel (4203) by filter with a predetermined level. (See fig. 27 (a) and (b)) and Fig.4 (elements 115,116)**. Hiroshi further shows that the output from the subtractor being integrated. It is well settled, however, that omission of an element and its function in a combination is an obvious expedient if the remaining elements perform the same functions as before (In re Nelson, 40 CCPA 708).

Omission of an Element and its function is obvious if the function of the element is not desired (Ex parte Wu, 10 USPQ 2031)

Conclusion

6 **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Temesghen Ghebretinsae whose telephone number is 571-272-3017. The examiner can normally be reached on Monday-Friday from 8 to 5. The examiner can also be reached on alternate

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on 571-272-2688. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Temesghen Ghebretinsae
Primary Examiner
Art Unit 2637

T.G.

12/7/05.

TEMESGHEH GHEBRETINSAE
PRIMARY EXAMINER